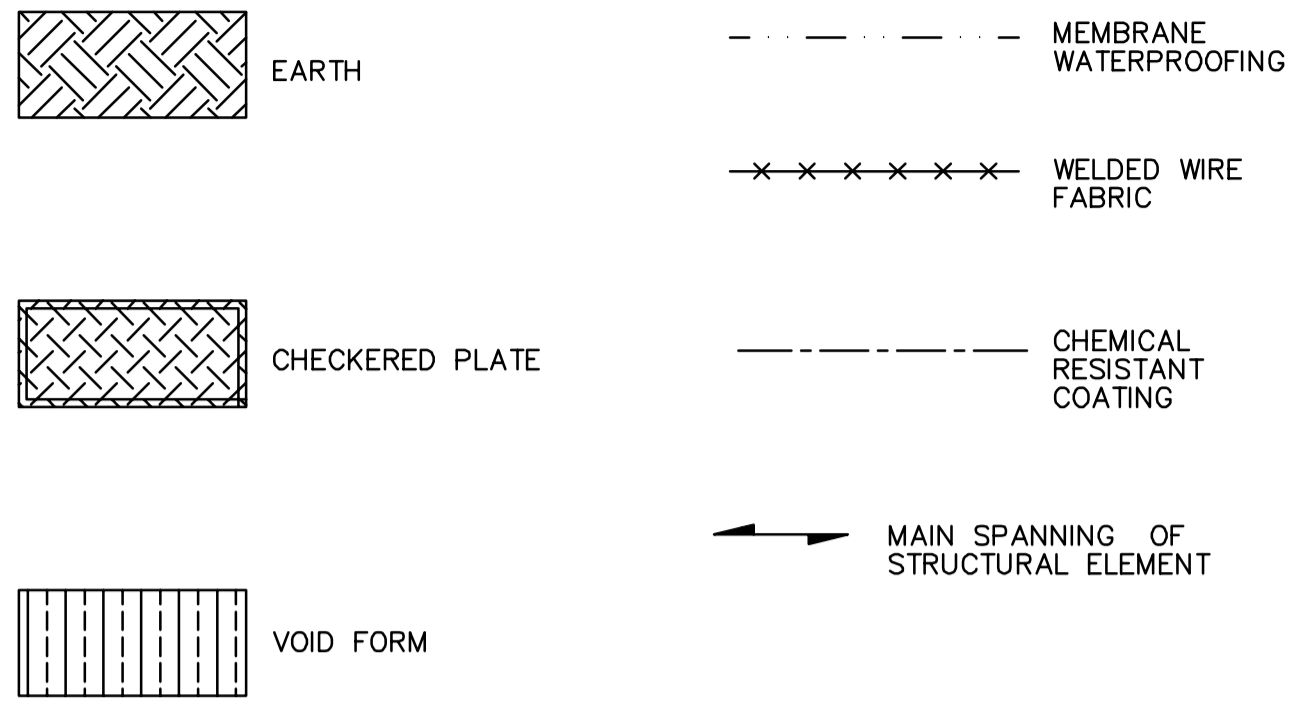


LEGEND



GENERAL NOTES

1. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS.
2. DIMENSIONS IN MILLIMETRES. ELEVATIONS IN METRES.
3. DO NOT SCALE DRAWINGS.
4. CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING OR BRACING SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR REVIEW. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER, EXPERIENCED AND REGISTERED IN THE PROVINCE OF MANITOBA, TO PERFORM AND TAKE RESPONSIBILITY FOR ANY SHORING AND OTHER DESIGNS REQUIRED TO COMPLETE THE CONSTRUCTION.
5. CONSTRUCT FLOOR SLOPES IN STRUCTURAL SLAB, UNLESS NOTED OTHERWISE.
6. ALL PLANS AND SECTIONS SHALL BE READ IN CONJUNCTION WITH STANDARD DESIGN DETAILS SHOWN ON DRAWINGS FROM WB-S0451 TO WB-S0462, WB-S0464, WB-S0472, WB-S0501 AND THE CONTRACT DOCUMENTS UNLESS NOTED OTHERWISE. FOR REINFORCING LAP TABLE SEE DWG NO. WB-S0451.
7. THE MINIMUM REINFORCING FOR ALL CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.

THICKNESS	REINF EACH WAY	LOCATION
150mm	15M@ 300	CENTRED, EACH WAY
200mm	15M@ 200	EACH WAY, EACH FACE
250mm	20M@ 300	EACH WAY, EACH FACE
300mm	20M@ 300	EACH WAY, EACH FACE
400mm & GREATER	25M@ 300	EACH WAY, EACH FACE

8. REFER TO PROCESS MECHANICAL AND PLUMBING DRAWINGS IN THIS CONTRACT FOR IDENTIFIED OPENINGS, EMBEDDED ITEMS AND UNDERSLAB ENCASED PIPING.
9. REFER TO SPECIFICATION E16 FOR BLOCKOUTS, EMBEDS, INSERTS, SUPPORTS, ANCHORS, SMALL PIPE, DOWELS AND ELECTRICAL CONDUIT EMBEDMENT NOT IDENTIFIED ON THE DRAWINGS.
10. OTHER CONTRACTS WILL BE EXECUTED CONCURRENTLY WITH THIS CONTRACT. WORK ON THOSE CONTRACTS WILL AFFECT THIS CONTRACT. COORDINATE WITH CONTRACT ADMINISTRATOR LOCATION OF ALL OPENINGS, EMBEDDED ITEMS, BLOCKOUTS, DOWELS, SLEEVES, AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
11. WALLS AND SUPPORTING SLAB CONCRETE TO ATTAIN 100% OF SPECIFIED COMPRESSIVE STRENGTH PRIOR TO PLACING BACKFILL.
12. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100% OF ITS SPECIFIED STRENGTH.
13. EXTERIOR WALL CLADDING (NIC) WILL BE SUPPORTED AS SHOWN IN DETAIL COORDINATE WITH CONTRACT ADMINISTRATOR LOCATION OF PLATES EMBEDDED IN THIS CONTRACT.
14. FOUNDATION WALL WATERPROOFING AND INSULATION REQUIREMENTS FOR EACH BUILDING AREA ARE SHOWN ON DRAWING W-S0201.
15. REFER TO PLANS FOR CONCRETE APRON REQUIREMENTS. SEE FOR SAW-CUT REQUIREMENTS.

DESIGN NOTES

(NOTE: THIS INFORMATION IS FOR REFERENCE PURPOSES ONLY. CONTRACTOR TO REFER TO SPECIFICATIONS.)

1. CONCRETE 28-DAY COMPRESSIVE STRENGTH:
 TYPE A 35MPa LIQUID HOLDING/CONTAINING STRUCTURES
 TYPE B 30MPa MINIMUM, UNLESS NOTED OTHERWISE
 TYPE C 15MPa FILL CONCRETE
2. REINFORCEMENT BARS: CAN/CSA-G30.18-M92 (R2002); GRADE 400R, 400W WHERE INDICATED.
3. ALUMINUM:
 ASTM B221M; ALLOY 6061-T6, FOR STRUCTURAL EXTRUDED SHAPES, UNLESS NOTED OTHERWISE.
 ANCHOR BOLTS:
 ASTM A307; UNLESS NOTED OTHERWISE
4. BACKFILL:
 UNIT WEIGHT 19.64 kN/m³
 EARTH PRESSURE ACTIVE COEFFICIENT K_a = 0.5
5. MAXIMUM ALLOWABLE SPECIFIED LOAD FOR DRIVEN END BEARING PRECAST CONCRETE 400# HEX PILES: 800kN. ANTICIPATED APPROXIMATE REFUSAL DEPTH ELEVATION ON DENSE GLACIAL TILL OR BEDROCK: 216.000(±).
6. MAXIMUM GROUNDWATER LEVEL ELEVATION 236.000
7. SNOW LOAD DATA:
 GROUND SNOW LOADING S_s = 1.7 kPa
 ASSOCIATED RAIN LOADING S_r = 0.2 kPa
8. WIND LOAD DATA:
 1/100 YEAR PRESSURE (q₁₀₀) 0.49 kPa
9. SEISMIC DATA:
 ACCELERATION-RELATED SEISMIC ZONE Z_a = 0
 VELOCITY-RELATED SEISMIC ZONE Z_v = 0
 ZONAL VELOCITY RATIO v = 0
10. REFERENCE CODES:
 i) NATIONAL BUILDING CODE OF CANADA 1995 (R2003) WITH THE 1999 MANITOBA AMENDMENTS.
 ii) CONCRETE AND REINFORCEMENT: CAN/CSA A23.1-04/A23.2-04, CSA A23.3-04 FOR LIQUID RETAINING STRUCTURES ACI 350-01, ACI 350.1-01 AND ACI 350.3-01
 iii) ALUMINUM: CSA-S157/S157.1-05

ABBREVIATIONS

AB	ANCHOR BOLT	JT	JOINT
AL	ALUMINUM	LG	LONG
ADD	ADDITIONAL	LL	LIVE LOAD
ALT	ALTERNATE	LLH	LONG LEG HORIZONTAL
ARCH	ARCHITECTURAL	LLV	LONG LEG VERTICAL
		LPT	LOW POINT
BLDG	BUILDING	LSSJ	LONG SPAN STEEL JOIST
BLL	BOTTOM LOWER LAYER		
BM	BEAM	MAX	MAXIMUM
BOC	BOTTOM OF CONCRETE	MC	MOMENT CONNECTION
BOP	BOTTOM OF PIPE	MECH	MECHANICAL
BOT	BOTTOM	MEZZ	MEZZANINE
B PL	BASE OR BEARING PLATE	MH	MANHOLE
BUL	BOTTOM UPPER LAYER	MID	MIDDLE
		MIN	MINIMUM
C TO C	CENTRE TO CENTRE	MISC	MISCELLANEOUS
CB	CATCH BASIN	MPDD	MODIFIED PROCTOR DRY DENSITY
CHKD PL	CHECKERED PLATE		
CJ	CONSTRUCTION JOINT	MW	MEMBRANE WATERPROOFING
CL	CENTRE LINE		
CLJ	CONTROL JOINT	NF	NEAR FACE
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NIC	NOT IN CONTRACT NUMBER
CO	CLEAN OUT	NO.	NUMBER
COL	COLUMN	NTS	NOT TO SCALE
CONC	CONCRETE		
CONN	CONNECTION	OC	ON CENTRE
CONT	CONTINUOUS	OD	OUTSIDE DIAMETER
CW	CAPILLARY WATERPROOFING	O.F.	OUTSIDE FACE
		OPNG	OPENING
DET	DETAIL	OPP	OPPOSITE
DIA	DIAMETER	OWSJ	OPEN-WEB STEEL JOIST
DBS	DOWEL BAR SPLICER(S)		
DIM	DIMENSION	PCAP	PILE CAP
DL	DEAD LOAD	PCC	PRECAST CONCRETE
DN	DOWN	PE	POLYETHYLENE
DO	DITTO	PERF	PERFORATED
DWG	DRAWING(S)	PL	PLATE
DWL	DOWEL(S)	PS	PIPE SUPPORT
		PVC	POLYVINYL CHLORIDE
EA	EACH	R	RISERS
EF	EACH FACE	R	RADIUS
EL	ELEVATION	REINF	REINFORCING STEEL BAR
EQL	EQUAL	REQD	REQUIRED
EQPT	EQUIPMENT		
ES	EACH SIDE	SEP JT	SEPARATION JOINT
EW	EACH WAY	SIM	SIMILAR
EXST	EXISTING	SP	SPACING
EXP JT	EXPANSION JOINT	SPS	SPACES
		SPEC	SPECIFICATION/SPECIFIED
FD	FLOOR DRAIN	SPDD	STANDARD PROCTOR DRY DENSITY
FF	FAR FACE		
FNSH	FINISH	SQ	SQUARE
FL	FLOOR	SST	STAINLESS STEEL
FRP	FIBRE REINFORCED	STD	STANDARD
		STL	STEEL
FTG	FOOTING	STR	STAGGERED
		STIF	STIFFENER
GALV	GALVANIZED	STIRR	STIRRUP
GL	GRID LINE	SYMM	SYMMETRICAL
GD	GUTTER DRAIN		
GID	GROUTED-IN DOWEL	T	TREADS
GRAN	GRANULAR	T&B	TOP AND BOTTOM
		TJ	TIE JOIST
HEF	HORIZONTAL EACH FACE	TLL	TOP LOWER LAYER
HORIZ	HORIZONTAL	T/O	TOP OF
HPT	HORIZONTAL STRUCTURAL STEEL	T/C	TOP OF CONCRETE
HSS	HIGH STRENGTH STEEL	TOS	TOP OF STEEL
HWL	HIGH WATER LEVEL	TUL	TOP UPPER LAYER
H	HIGH	TYP	TYPICAL
H & V	HORIZONTAL AND VERTICAL		
		U/S	UNDERSIDE
ID	INSIDE DIAMETER	UNO	UNLESS NOTED OTHERWISE
I.F.	INSIDE FACE		
INSUL	INSULATION	VERT	VERTICAL
INV	INVERT	VEF	VERTICAL EACH FACE
		VIF	VERTICAL INSIDE FACE
		VOF	VERTICAL OUTSIDE FACE
		W	WIDE
		W/	WITH
		W/O	WITHOUT
		WS	WATER STOP
		WWF	WELDED WIRE FABRIC

<p>APEGN Certificate of Authorization CH2M HILL Canada Ltd. No. 1441 Expiry: April 30, 2006</p>	<p>CH2MHILL Frederickson Cooper ARCHITECTS</p>	<p>EarthTech A Tyco International Ltd. Company</p>	ENGINEER'S SEAL	<p>THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION</p>	
			DESIGNED BY: DK CHECKED BY: AP DRAWN BY: MS APPROVED BY: DJT		ORIGINAL SIGNED BY: D. KRUGER DATE: 2006/02/06
SCALE: NTS RELEASED FOR CONSTRUCTION BY: R. SOROKOWSKI DATE: 2005/08/10 DATE: 2006/02/08			CONSULTANT DRAWING NO. WM-S9002	STRUCTURAL LEGEND GENERAL NOTES AND ABBREVIATIONS	CITY DRAWING NUMBER 1-060M-D-89002-01-01D